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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GEORGE HENRY FORMAN
and HENRI JACQUES SUERMONDT

Appeal 2007-1546
Application 10/054,029
Technology Center 2100

Decided: December 21, 2007

Before HOWARD B. BLANKENSHIP, ALLEN R. MACDONALD, and
MARC S. HOFF, *Administrative Patent Judges*.

BLANKENSHIP, *Administrative Patent Judge*.

DECISION ON APPEAL

1 This appeal involves claims 1-27, the only claims pending in this application. We have jurisdiction under 35 U.S.C. §§ 6(b), 134(a).

INTRODUCTION

The invention relates generally to topical decision algorithms and structures. (Spec. ¶ [0001].) Claims 10 and 17 are illustrative:

10. A computerized tool for assisting a user with navigating a large hierarchy structure, having a large plurality of nodes, via classification subprocesses, the tool comprising:

- computer code for relating information indicative of a goal node to at least first level nodes of the hierarchy structure;

- computer code for classifying said information and predicting at least one option most likely to advance navigation to a predicted goal node of said hierarchy structure;

- computer code for highlighting said at least one option to said user;

- computer code for receiving feedback from said user related to a current choice with respect to said at least one option; and

- computer code for iteratively providing suggestions including at least one refined suggestion based on reclassifying said information each a current choice among said suggestions.

17. A process for navigating through an organizational structure having a plurality of levels and nodes, the method comprising:

- receiving targeting data related to said organizational structure;

- applying a classifier to said targeting data;

- presenting a plurality of choices of nodes wherein said choices are representative of results of said classifier categorizing said targeting data with respect to said organizational structure and wherein said plurality of

choices includes at least a subset of said plurality of choices indicating probable solutions to said targeting data;

receiving a selection from said plurality of choices;

iteratively applying the classifier to said targeting data and each said selection until a user target node is reached.

The Examiner relies on the following prior art references to show unpatentability:

Schilit	US 5,627,980	May 6, 1997
Herz	US 6,029,195	Feb. 22, 2000
Ortega	US 6,489,968 B1	Dec. 3, 2002

(filed Nov. 18, 1999)

The rejections maintained by the Examiner are as follows:

1. Claims 1-16 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.
2. Claims 1, 3-6, 8-13, 16, 17, 19, 22, 23, 25, and 27 are rejected under 35 U.S.C. § 102(b) as being anticipated by Schilit.
3. Claims 2 and 18 are rejected under 35 U.S.C § 103(a) as unpatentable over Schilit.
4. Claims 7, 15, 20, and 26 are rejected under 35 U.S.C § 103(a) as unpatentable over Schilit and Ortega.
5. Claims 14, 21, and 24 are rejected under 35 U.S.C § 103(a) as unpatentable over Schilit and Herz.

OPINION

Section 101 Rejection

The Examiner rejects claims 1 through 16 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The Examiner finds that the claimed computer program is not embodied in a computer readable medium. (Ans. 3.)

Appellants address claims 1 and 10 separately in response to the rejection, and do not rely on the limitations of any other claim. We therefore select claims 1 and 10 as representative claims in our review of the rejection. See 37 C.F.R. § 41.37(c)(1)(vii).

Appellants submit they are not aware of any case law that states claims reciting computer code must be embodied in a computer readable medium. (Br. 10.) Appellants further submit that the claims have a practical application in the technological arts and provide a concrete, tangible, and useful result. (*Id.* 8-9.)

In a § 101 analysis, the critical question must be answered: “What did the applicant invent?” *Arrhythmia Research Technology, Inc. v. Corazonix Corp.*, 958 F.2d 1053, 1059 (Fed. Cir. 1992) (quoting *In re Grams*, 888 F.2d 835, 839 (Fed. Cir. 1989)). A § 101 inquiry is directed to the determination of whether the claimed subject matter as a whole is a disembodied mathematical concept representing nothing more than a “law of nature” or an “abstract idea,” or if the mathematical concept has been reduced to some practical application rendering it “useful.” *AT&T Corp. v. Excel*

Communications Inc., 172 F.3d 1352, 1357 (Fed. Cir. 1999) (citing *In re Alappat*, 33 F.3d 1526, 1544 (Fed. Cir. 1994) (en banc)).

Appellants seem to acknowledge in the Brief that the rejected claims are directed to computer software that is not embodied in any tangible medium, much less a computer-readable medium. Indeed, instant claim 16 recites “[t]he tool as set forth in claim 10 in a computer memory device,” which must mean that the “tool” of claim 10 is not limited to being resident in a computer memory device.¹

Contrary to Appellants’ allegation at page 11 of the Brief, the Examiner’s position is consistent with the Office’s current understanding of the law. See *Manual of Patent Examining Procedure* (MPEP) § 2106.01(I), p. 2100-18 (8th Ed., Rev. 6, Sept. 2007), which spells out how one may avoid having claims interpreted as directed to software *per se*: “[A] claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program’s functionality to be realized, and is thus statutory.” Cf. instant claim 25, not rejected under § 101, drawn to a “computer readable medium having instructions for causing a computer to execute a method”

¹ As Appellants do not rely on the recitations of claim 16 in response to the rejection, the claim stands or falls with claim 10. We need not decide here whether merely reciting that something otherwise non-statutory is “in a computer memory device” is sufficient to define statutory subject matter.

The categories of statutory subject matter are “process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. “[N]o patent is available for a discovery, however useful, novel, and nonobvious, unless it falls within one of the express categories of patentable subject matter of 35 U.S.C. § 101.” *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 483 (1974). Our reviewing court has recently held that transitory forms of signal transmission are not patentable subject matter because they are not in any category of § 101. *See In re Nuijten*, No. 2006-1371, slip op. at 11-18 (Fed. Cir. Sept. 20, 2007).

Instant claim 1 purports a “tool” comprising “computer code means.” Instant claim 10 purports a “computerized” tool comprising “computer code.” The claims are not drawn to a process (*cf.* instant claim 17). The claims do not appear to be drawn to a machine (e.g., a computer), but to software that may have functionality if embodied in a computer or a computer readable medium. Instant claim 16, for example, recites the “tool” of claim 10 in a “computer memory device.” A computer does not reside in a “computer memory device.”

A “manufacture” and a “composition of matter” are defined in *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980):

[T]his Court has read the term “manufacture” in § 101 in accordance with its dictionary definition to mean “the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery.” *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11 (1931). Similarly, “composition of matter” has been

construed consistent with common usage to include “all compositions of two or more substances and . . . all composite articles, whether they be results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids.” *Shell Development Co. v. Watson*, 149 F. Supp. 279, 280 (D.C. 1957) (citing 1 A. Deller, *Walker on Patents* § 14, p. 55 (1st ed. 1937). [Parallel citations omitted.]

The computer program embodiments of claims 1 and 10, not embodied in any tangible medium, appear to be neither “manufactures” nor “compositions of matter” under § 101.

The claims thus do not appear to define subject matter within the categories of statutory subject matter set forth by § 101.

Being not limited to embodiment in a computer-readable (or even tangible) medium, the claims appear to require no more than an abstract idea. As the Supreme Court has made clear, “[a]n idea of itself is not patentable.” *In re Warmerdam*, 33 F.3d 1354, 1360, (quoting *Rubber-Tip Pencil Co. v. Howard*, 87 U.S. (20 Wall.) 498, 507, 22 L.Ed. 410 (1874)).

Appellants make no attempt to explain why “classifying information, providing a recommendation, and providing feedback” (Br. 8) or “classifying information, predicting and highlighting an option, and providing suggestions” (*id.* 9) should be regarded as concrete, tangible and useful results. Moreover, a “useful, concrete, and tangible” result may indicate that a claim is drawn to a statutory process (e.g., *AT&T Corp.*, 172 F.3d at 1359) or machine (e.g., *State Street Bank & Trust Co. v. Signature*

Fin. Group, Inc., 149 F.3d 1368, 1375 (Fed. Cir. 1998)). Here, however, the claims are drawn to neither a process nor a machine.²

We are thus not persuaded that claims 1 through 16 have been rejected in error. We sustain the rejection of the claims under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

Prior Art Rejections

Claims 1, 3-6, 8-13, 16, 17, 19, 22, 23, 25, and 27 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Schilit. Claims 2 and 18 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Schilit. Claims 7, 14, 15, 20, 21, 24, and 26 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Shilit in combination with Ortega or Herz. We will consider claims separately to the extent that arguments are presented for separate patentability. *See* 37 C.F.R. § 41.37(c)(1)(vii).

² As the “computer code means” of claims 1 through 9 are not embodied in any tangible medium, consideration of the claims also raises the issue of patentability under 35 U.S.C. § 112, second paragraph. Limitations under 35 U.S.C. § 112, sixth paragraph must be interpreted by reference to the corresponding disclosure. *See, e.g., In re Lonardo*, 119 F.3d 960, 967 (Fed. Cir. 1997) (citing *In re Donaldson Co.*, 16 F.3d 1189, 1193 (Fed. Cir. 1994) (en banc)). Lack of any structure in the disclosure corresponding to the “means” indicates that the claims fail to pass muster under 35 U.S.C. § 112, second paragraph. *See, e.g., Atmel Corp. v. Information Storage Devices, Inc.*, 198 F.3d 1374, 1381-82 (Fed. Cir. 1999); *In re Dossel*, 115 F.3d 942, 944-46 (Fed. Cir. 1997).

Schilit describes a computer processor driven small screen display 20 (Fig. 2) having a menu system to facilitate data entry and selection. As shown in Figure 1, a k-ary menu tree 10 has a first level 1, a second level 2, and a third level 3 composed of twenty-six members of an alphabetic data set. On the display 20, ellipsis 23 represents alphabetic letters between t and z (u, v, w, x, and y from data set 18 in Fig. 1). If a user wants to select the letter “w,” the user may bring pointing device 22 to ellipsis 23 on the touch sensitive screen of display 20. The display updates (Fig. 3), showing the letters occurring between t and z, allowing the letter w to be selected with the pointing device. Schilit col. 5, ll. 15-67. As shown in Figures 4 and 5, when the letter w is selected, the screen display and logical structure of the k-ary menu tree 110 is modified to reflect the increased likelihood that “w” will again be selected. Display of the letter “w” on the second level 2 positions that letter on the first screen shown to a user, thus eliminating the two step selection procedure of Figures 1, 2, and 3. Shilit col. 6, ll. 1-12.

Shilit thus describes, in terms of instant claim 1, a tool for navigating an organizational (k-ary tree) structure having a plurality of choices (alphabetic letters) therein, including a plurality of next available choices (e.g., alphabetic letters at a lower level of the tree) comprising computer code means for receiving information or data (selection of the desired menu item), computer code means for classifying the information or data with respect to the structure (e.g., determining where the selected menu item occurs in the k-ary tree), providing a recommendation (e.g., letters occurring

between t and z), and computer code means for providing feedback indicative of the recommendation (e.g., Fig. 3, displaying all letters between t and z).

Perhaps in an abundance of caution, the Examiner appears to give weight to what the data of claim 1 are recited as being “related to” or representing. However, the data (“information”) consist of nonfunctional descriptive material, which does not impart functionality to any underlying machine or medium. *See In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004) (“[w]here the printed matter is not functionally related to the substrate, the printed matter will not distinguish the invention from the prior art in terms of patentability,” quoting *In re Gulack*, 703 F.2d 1381, 1385 (Fed. Cir. 1983)); *In re Lowry*, 32 F.3d 1579, 1583 (Fed. Cir. 1994) (“Lowry does not claim merely the information content of a memory. . . . [N]or does he seek to patent the content of information resident in a database.”). *See also* MPEP § 2106.01, p. 2100-17 (“USPTO personnel need not give patentable weight to printed matter absent a new and unobvious functional relationship between the printed matter and the substrate” (citing *Lowry* and *Ngai*)).

Appellants’ arguments in support of claim 1 (Br. 12-13) are based, in large part, on the asserted meaning of the descriptive material that is not structurally and functionally interrelated to an underlying medium. The Examiner amplifies the statement of the rejection (Ans. 12-15) in response to Appellants’ arguments. Appellants have not shown error in the Examiner’s position, even if one were to assume that the recited meaning of

the data in claim 1 carries patentable weight. Moreover, the actual requirements of claim 1 are met by Schilit, as we have indicated *supra*.

With respect to depending claim 6, Appellants argue that Schilit does not teach a classifier program as that term is known by one of ordinary skill in the art. (Br. 13-14.) Appellants' Specification indicates that "classifiers" are to be interpreted broadly, functionally defined as programs that "automatically assign[] items to categories in a hierarchy." (Spec. ¶ [0004].) We agree with the Examiner that Schilit's description (in particular at column 6, lines 1-12) is sufficient to meet the terms of the claim 6 "classifier program related to a subset of choices of said plurality of choices."

Similar to claim 1, independent claim 10 contains language concerning what data are "indicative of" or "related to," which fails to limit the functionality of the recited "computer code." We refer to the Answer for an explanation regarding why the terms are met by Schilit, even if all the terms of claim 10 were to be considered limitations.

Further with respect to claim 10, Appellants allege that Schilit does not describe "highlighting" an option within the meaning of the claim. Appellants' argued definition of "highlighting" (Br. 15) -- e.g., "to center attention on" -- and Specification teaching (¶ [0019]) -- that choices are "highlighted" to indicate which paths have the highest probabilities of reaching the appropriate final node(s) -- are each sufficiently broad to include within its scope Schilit's teachings. We agree with the Examiner that Schilit's manner of displaying a letter thought to be the next logical

selection (e.g., col. 6, ll. 1-12) qualifies as “highlighting” an option as recited in claim 10.

Finally, with respect to claim 10, we are not persuaded that Schilit fails to describe “iteratively” providing suggestions as required by the claim. As the Examiner notes, Schilit expressly describes providing suggestions in a recursive, repetitive manner (col. 2, ll. 33-50), which is plainly “iterative.”

Appellants’ arguments in support of claim 11 are noted (Br. 15-16). We refer, in response, to the Examiner’s findings that address the subject matter as if all the terms carry patentable weight (Ans. 5-6; 16-18). Claim 11, however, deals with a “current choice” that is defined by base claim 10 as something that user feedback (i.e., data) is merely “related to.” The “current choice” is, at best, mere data related to other data – i.e., nonfunctional descriptive material. We sustain the rejection of claim 11.

In defense of claim 17, Appellants submit (Br. 16) that “[n]owhere does Schilit teach receiving target [sic] data related to an organization [sic] structure.” How the data may be denominated and what the data may be “related to,” in the context of claim 17, carry no weight in the patentability analysis. The action of the first step of claim 17 is “receiving . . . data” Further, we have already considered Appellants’ allegations that Schilit does not teach “classifiers” and “iteratively applying” a classifier to data, which are not persuasive of error in the rejection.

Appellants place remarks in nominal support of claims 25 and 27 under separate headings of the Brief. The remarks set forth positions we

have previously considered in relation to other claims, and find unpersuasive.

In response to the rejection of claims 2, 7, 14, 15, 18, 20, 21, 24, and 26 under 35 U.S.C § 103(a), Appellants rely on the arguments offered in support of the claims rejected under § 102(b).³ Appellants add, however, there is no suggestion or motivation to modify Schilit to arrive at the subject matter of claim 2 because “of the completely different inventions and problems being solved in Schilit and Applicants’ claimed invention” (Br. 20-21.) Absent an explanation -- perhaps Appellants submit that Schilit is not concerned with classifying information as an explanation -- as to why the inventions and problems being solved are “completely different,” we are not persuaded of error in the Examiner’s rejection of claim 2. In particular, the allegation of “completely different inventions and problems being solved” does not speak to official notice of what was well known (Ans. 7) or the teachings of Schilit alone (*id.* 22-23) as a basis for the rejection. We therefore sustain the § 103(a) rejection of claim 2, and of all the claims rejected under that section of the statute.

³ We note in passing that claim 26 could also be rejected under 35 U.S.C. § 112, second and/or fourth paragraph, as the claim purports further limiting the “method as set forth in claim 25.” Claim 25, however, recites *a computer readable medium* having instructions for causing a computer to execute a method.

CONCLUSION

In summary, the rejection of claims 1-16 under 35 U.S.C. § 101 as being directed to non-statutory subject matter is affirmed. The rejection of claims 1, 3-6, 8-13, 16, 17, 19, 22, 23, 25, and 27 under 35 U.S.C. § 102(b) is affirmed. The rejection of claims 2, 7, 14, 15, 18, 20, 21, 24, and 26 under 35 U.S.C § 103(a) is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

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